as large fragments of fossil wood. Very many of the specimens were sliced, and being reduced to very thin transparent sections, were examined with the view of determining the botanical character of their contents, and the intimate structure of the masses of more or less homogeneous aspect to which they were reduced by decomposition, previous to or during the operation of calcification. The results were very satisfactory, and seemed to indicate that all traces of vegetable structure may be completely obliterated in the substance of highly bituminized coal, which may nevertheless also contain fragments of wood with their tissues preserved.

An account is then given of the examination of the details of structure of *Trigonocarpon*, and this, as well as the comparison of *Trigonocarpon* with the modern genus *Salisburia*, is illustrated by drawings and analyses.

The authors are still engaged with the study of these nodules, with the view of showing the relationship between *Calamodendron*, *Calamites*, *Sigillaria* and *Anabothra*, and the details are preparing for publication.

BOTANICAL SOCIETY OF EDINBURGH.

December 14, 1854.—Professor Balfour, President, in the Chair.

The Secretary was directed to enter upon the minutes, an expression of the Society's sense of the great loss which science had sustained in the sudden and unexpected death of Professor Edward Forbes, and of their sympathy with his family in the bereavement.

Office-bearers for the ensuing year were elected, as follows :—

President.—Professor Balfour.

Vice-Presidents.—Dr. Seller; Henry Paul, Esq.; James Cunningham, Esq.; Charles Jenner, Esq.

Council.—James M'Nab, Esq.; Dr. Priestley; Dr. W. H. Lowe; Professor Blackie; William Ivory, Esq.; G. R. Tate, Esq., Professor Fleming; Professor Simpson; John Lowe, Esq.; Robert Daw, Esq.

Honorary Secretary: Dr. Greville.—*Foreign Secretary:* Dr. Douglas Maclagan.—*Auditor:* William Brand, Esq.—*Treasurer:* William W. Evans, Esq.—*Curator of Museum:* George S. Blackie, Esq.—*Artist:* Neil Stewart, Esq.—*Assistant-Secretary and Curator:* Mr. G. Lawson.

Dr. Balfour read an extract from a letter he had received from Dr. W. A. White, Assistant Surgeon 47th Regiment, dated "Camp before Sebastopol, Nov. 17, 1854," accompanying seeds of a superior melon he had gathered in the orchards on the banks of the Katscha. "All who visited those orchards were surprised at the extraordinary abundance and variety of the fruit-trees. Very many different varieties of the apple and pear, peaches, apricots, nectarines, quinces, the plum, the cherry, the walnut, the almond, the fig, were growing in the greatest profusion within the space of an acre, whilst the surrounding vineyards were laden with the finest grapes. Vegetables too were in great abundance, the enormous size of which excited our surprise, considering the little apparent amount of labour expended

on their cultivation. The garden implements were rude and simple, a rich soil and a warm southern sun rendering any artificial operations unnecessary. The country after passing the Belbec is thickly wooded with dwarf oak for the distance of about four miles, when a rapid descent takes place into the Valley of Inkermann, at the south-western extremity of which Sebastopol is situated, which is surrounded with bare rocky hills nearly destitute of vegetation."

Dr. Balfour exhibited specimens of *Chætophora endiviæfolia*, sent by Miss Susanna Beever, from Stanley Water on the Fell near Coniston Old Man.

The following papers were read:—

1. "Sketch of the Life of the late Professor Edward Forbes," by Professor Balfour. This paper appeared in the 'Annals of Natural History' for last month.

2. "On *Hypericum anglicum*," by Charles C. Babington, M.A., F.R.S. See p. 92.

3. "On the Structure of the Anthers of *Erica*," by John Lowe, Esq.

The author remarked, "I have to bring before the Society's notice this evening, a short sketch of two peculiar features occurring in the anthers of the genus *Erica*. The anthers of this genus are usually described in botanical works as consisting of two loculi, which open and discharge their pollen by means of lateral pores. So far this is true, for if we examine a fully expanded flower, the anthers will be seen to be free, and to have a pore, or rather slit on each side; but if a young, unexpanded flower be examined, the anthers instead of being free will be found to be connected together into the form of a circle, and no pores will now be seen. Their future disconnection appears to be caused by the increase of the pollen, in the same manner that valves are separated in valvular dehiscence. The first who noticed the peculiarity above mentioned was, I believe, that very accurate observer Mr. Robert Brown, who thus describes it in the 'Hortus Kewensis,' so long ago as 1811: 'Antheræ ante anthesin per duo foramina lateralia connexæ.' The only other work in which I find it noticed is M'Gillivray's edition of 'Withering's British Botany'; but there is a want of that accuracy observable in the preceding work. [See Smith, Eng. Fl. ii. 225.] The other peculiarity referred to is the separation which occurs between the loculi of the same anther. In all the species examined this prevails to a greater or less extent. In some the division extends almost, in others quite, to the base of the anther, and in two species, *E. Banksiana* and *E. Sebana lutea*, there is so complete a separation, that the loculi of adjoining anthers have a greater connection than those of the same anther. In these two instances, the filaments are expanded into the form of a tube, and there appears, in all the species examined, to be a nearly constant ratio between the amount of the filamentary expansion and the separation of the loculi. One apparent exception is found in *E. vernix coccinea*, but here the filaments, though much expanded at the base, are attenuated superiorly. From these facts it would almost seem

that the rigidity of the filaments has some effect in causing the separation of the loculi; for where the filaments are most slender and delicate, the least amount of separation occurs, and *vice versâ*.

The mode in which this result is produced, is apparently by the strong filaments, as they increase in size, drawing the loculi apart, whilst the slender ones yield and bend inwards, allowing the loculi to retain their position. In proof of this we find, that when the filaments are strong, or united into a tube, the circle of united anthers is large, and when the filaments are slender, the antherine circle is small, and the filaments, though brought together at their apex, are wider apart, and even bulging below. The number examined is twenty-three, the names of which are given in the following list. I have not been able to observe whether any peculiarities exist in the anthers of the allied genera, as they are not now in flower.

Erica Caffra.
—— rupestris.
—— Eassoniana purpurea.
—— rubens.
—— Lambertia rosea.
—— linnæoides.
—— Aitonia Turnbulli.
—— —— turgidula.
—— ampullacea.
—— arbuscula.
—— cerinthoides.
—— taxifolia.

Erica magnifica.
—— Banksiana.
—— verticillata.
—— hyemalis.
—— vernix coccinea.
—— Sebana lutea.
—— melanthera.
—— Princeps.
—— magnifica.
—— vestita coccinea.
—— ventricosa superba.

4. "Summary of the Flora of the Lake district of England," by Mr. James B. Davies.

Mr. Davies read a full list of the rarer plants of the district, with their habitats, which he remarked would be found in the Appendix to Black's admirable 'Guide to the Lakes.'

MISCELLANEOUS.

Observations on the Nests of Humming Birds.

By John Gould, F.R.S. &c.

Mr. Gould exhibited a collection of nests of Humming Birds, exemplifying the habitual characteristic structures of several genera. The first group to which his remarks were directed were the Hermit birds (*Phaëthornis*), which invariably build at the extremity of leaves, perhaps from the protection which that situation affords against the attacks of monkeys and other predatory animals. *Oreotrochilus* builds a beautiful nest, attached to the sides of rocks. *Heliomaster mesoleucus* makes a nest in a beautiful species of moss, depending from the trees. Most of the nests are cup-shaped, some being placed in forks, some on branches, some on leaves, some in ferns; they are shallow and delicately formed, ornamented in the most varied manner with feathers, or with festoons of moss and lichen, especially in the genus *Hylocharis*. The attachment of the lichen and other ornaments is effected by means of fine cobwebs.